## **Claims**

## What is claimed is:

1	1. A method, comprising:
2	shifting a center frequency of selected ones of a plurality of received signals
3	by selected amounts to provide a plurality of shifted signals located in a
4	frequency domain; and
5	combining the plurality of shifted signals into a composite signal centered at
6	a selected frequency.
1	2. The method of claim 1, further comprising:
2	converting the composite signal into a plurality of digital signals.
1	3. The method of claim 2, further comprising:
2	receiving the plurality of digital signals at an interference canceller.
1	4. The method of claim 2, wherein converting the composite signal into the
2	plurality of digital signals further comprises:
3	sampling the composite signal with a single analog-to-digital converter to
4	provide a multiplicity of digital samples.
1	5. The method of claim 4, further comprising:
2	providing the multiplicity of digital samples to a plurality of digital bandpass
3	filters.
1	6. The method of claim 5, wherein at least one of the plurality of digital
2	bandpass filters provides a series of digital channel samples, further comprising:
3	providing the series of digital channel samples to a down converter.

- 7. The method of claim 1, wherein the plurality of received signals comprises a
- 2 plurality of baseband analog signals.
- 1 8. The method of claim 1, further comprising:
- 2 canceling interference present in the composite signal.
- 9. The method of claim 8, wherein canceling the interference present in the
- 2 composite signal further comprises:
- 3 reconstructing the interference present in the composite signal.
- 1 10. The method of claim 1, wherein the plurality of shifted signals are located
- 2 substantially sequentially in the frequency domain.
- 1 11. The method of claim 1, wherein the selected frequency is approximately
- 2 zero cycles-per-second.
- 1 12. An article comprising a machine-accessible medium having associated data,
- wherein the data, when accessed, results in a machine performing:
- 3 shifting a center frequency of selected ones of a plurality of received signals
- 4 by a selected amount to provide a plurality of shifted signals located in a
- 5 frequency domain; and
- 6 combining the plurality of shifted signals into a composite signal centered at
- 7 a selected frequency.
- 1 13. The article of claim 12, wherein the composite signal includes a plurality of
- 2 protocols associated with the plurality of received signals.
- 1 14. The article of claim 12, wherein the composite signal includes a plurality of
- 2 signals from a plurality of antennas.

1	15. The article of claim 12, wherein the data, when accessed, results in the
2	machine performing:
3	selecting a single sampling frequency rate for the composite signal; and
4	determining a down conversion frequency for selected radio frequency
5	signals associated with the plurality of received signals.
1	16. The article of claim 12, wherein the plurality of shifted signals are located
2	substantially sequentially in the frequency domain.
1	17. The article of claim 12, wherein the selected frequency is approximately
2	zero cycles-per-second.
1	18. An apparatus, comprising:
2	an analog-to-digital converter to receive a composite signal; and
3	an analog stage to couple to the analog-to-digital converter, wherein the
4	analog stage is to shift a center frequency of a plurality of received signals by a
5	selected amount to provide a plurality of shifted signals for combination into the
6	composite signal.
1	19. The apparatus of claim 18, wherein the analog stage further comprises:
2	a plurality of sections corresponding to the plurality of received signals,
3	wherein selected ones of the sections include at least one bandpass filter and a
4	mixer.
1	20. The apparatus of claim 18, wherein the analog stage further comprises:
2	a combiner selected from a power combiner, a mixer, and an adder.
1	21. The apparatus of claim 18, further comprising:

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an interference canceller to couple to the analog-to-digital converter.

- 1 22. The apparatus of claim 18, further comprising:
- 2 a plurality of digital processing modules corresponding to the plurality of
- 3 received signals, wherein selected ones of the digital processing modules
- 4 include at least one of a digital bandpass filter and a down converter.
- 1 23. The apparatus of claim 18, further comprising:
- an active channel controller to adjust a sampling rate associated with the
- 3 analog-to-digital converter.
- 1 24. A system, comprising:
- an analog-to-digital converter to receive a composite signal;
- an analog stage to couple to the analog-to-digital converter, wherein the
- analog stage is to shift a center frequency of a plurality of received signals by a
- 5 selected amount to provide a plurality of shifted signals for combination into the
- 6 composite signal; and
- 7 an omnidirectional antenna to couple to the analog stage.
- 1 25. The system of claim 24, further comprising:
- an interference canceller to couple to the analog-to-digital converter.
- 1 26. The system of claim 24, further comprising:
- an active channel controller to couple to the analog-to-digital converter.
- 1 27. The system of claim 26, wherein the active channel controller is to select a
- 2 channel included in the composite signal corresponding to a selected protocol.
- 1 28. The system of claim 26, wherein the active channel controller is to
- determine a down conversion frequency according to an activity status of a
- 3 selected section included in a plurality of sections corresponding to the plurality
- 4 of received signals.